

Notice of Allowability

Application No.

10/511,404

Examiner

Michael W. Talbot

Applicant(s)

TIAN ET AL.

Art Unit

3722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed 13 December 2006.
2. ☒ The allowed claim(s) is/are 1-8.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

Monica S. Carter
MONICA CARTER
SUPERVISORY PATENT EXAMINE

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Mrs. Karin L. Williams on Friday, 9 March 2007.

The application has been amended as follows:

Abstract:

(a) Line 7, the phrase "with said nut" has been changed to read --with a nut--.

2. The following is an examiner's statement of reasons for allowance:

Claims 1-8 are allowed.

Claims 1 and 3 are the independent claims.

Regarding claims 1 and 3, the prior art of record fails to anticipate or make obvious a self-tightening keyless chuck having (1) "wherein a surface of at least one of the bearing ring and the nut that faces the bearing assembly (or a lower bearing ring as recited in claim 3) is provided with a recessed circumferential arcuate race and a plurality of ball-shaped grooves uniformly formed in an arcuate bottom surface of the arcuate race", solely or in combination, with a self-tightening keyless chuck comprising a rear sleeve, a body, a bearing ring, a bearing assembly, a nut, a jaw, a front sleeve and a stopper.

Huff et al. '194 is the closest art of record.

Huff et al. '194 shows in Figures 2A through 5B a keyless chuck comprising a rear sleeve (12), a body (15), a bearing ring (50), a bearing assembly (48), a nut (13), a jaw (14), a front sleeve (11) and a stopper wherein the front sleeve engages the nut through radial smooth

Art Unit: 3722

press-fit (col. 3, lines 19-20) and wherein the surface of the bearing ring facing the bearing assembly is provided with a circumferential race (54) and a plurality of ball-shape grooves (56) uniformly formed on the surface of the race. Huff et al. '194 shows the front sleeve being press-cast using a press-cast metal or powdered metallurgic material (col. 3, lines 20-24).

Huff et al. '194 lacks a self-tightening keyless chuck having (1) "wherein a surface of at least one of the bearing ring and the nut that faces the bearing assembly (or a lower bearing ring as recited in claim 3) is provided with a recessed circumferential arcuate race and a plurality of ball-shaped grooves uniformly formed in an arcuate bottom surface of the arcuate race"

Although it is well known to have a surface of at least one of the bearing ring and the nut that faces the bearing assembly (or a lower bearing ring as recited in claim 3) provided with a circumferential race with a plurality of ball-shaped grooves uniformly formed in on the surface of the race, there is no teaching in the prior art of record that would, reasonably and absent impermissible hindsight, motivate one having ordinary skill in the art to so modify the teachings of Huff et al. '194, noting that in Huff et al. '194, the surface of at least one of the bearing ring and the nut that faces the bearing assembly is provided with a flat circumferential race (not a recessed nor arcuate shaped race) with a plurality of ball-shaped grooves uniformly formed on the flat surface of the race (not in an arcuate bottom surface of the arcuate race). Thus, for at least the foregoing reasons, the prior art of record neither anticipates nor rendered obvious the present invention as set forth in independent claims 1 and 3.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Art Unit: 3722

Conclusion

3. Any inquiry concerning the content of this communication from the examiner should be directed to Michael W. Talbot, whose telephone number is 571-272-4481. The examiner's office hours are typically 8:30am until 5:00pm, Monday through Friday. The examiner's supervisor, Mrs. Monica S. Carter, may be reached at 571-272-4475.

In order to reduce pendency and avoid potential delays, group 3720 is encouraging FAXing of responses to Office Actions directly into the Group at FAX number 571-273-8300. This practice may be used for filling papers not requiring a fee. It may also be used for filing papers, which require a fee, by applicants who authorize charges to a USPTO deposit account. Please identify Examiner Michael W. Talbot of Art Unit 3722 at the top of your cover sheet.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



MWT
Examiner
9 March 2007


MONICA CARTER
SUPERVISORY PATENT EXAMINER